## (19) World Intellectual Property Organization International Bureau

operty Organization
Bureau
OMP



### (43) International Publication Date 18 May 2006 (18.05.2006)

# (10) International Publication Number $WO\ 2006/052237\ A1$

(51) International Patent Classification<sup>7</sup>:

F16K 41/00

(21) International Application Number:

PCT/US2004/036827

(22) International Filing Date:

5 November 2004 (05.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

- (71) Applicant (for all designated States except US): PETROLVALVES USA [US/US]; Fairbanks Center, 4300 Windfern, Suite 300, Houston, TX 77041 (US).
- (71) Applicant and
- (72) Inventor: POZZATI, Roberto [IT/IT]; Via Mazzini, 5, I-21052 Busto Arsizio (IT).
- (74) Agent: PETERKA, Karin, E.; Buchalter, Nemer, Fields & Younger, 601 S. Figueroa Street, Suite 2400, Los Angeles, CA 90017 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### **Declaration under Rule 4.17:**

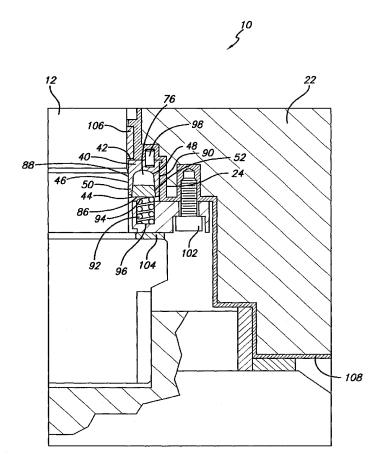
of inventorship (Rule 4.17(iv))

#### **Published:**

with international search report

[Continued on next page]

(54) Title: METAL VALVE STEM SEAL AND SEALING SYSTEM



(57) Abstract: The present invention is directed to a metal valve stem seal and sealing system comprising a valve body; a metal valve stem housed within the valve body; a bonnet member housed within the valve body; a U-shaped metal stem gasket positioned between the metal valve stem and the bonnet member, wherein the gasket has a first lip member and a second lip member each having an interior surface and an exterior surface; a metal wedge ring fitted between the first and second lip members; and, at least one metal energizing spring adjacent the wedge ring, wherein the metal energizing spring applies a sufficient force to the wedge ring to cause the wedge ring to apply a sufficient contact pressure to the first and second lip members to form a seal between the gasket and the metal valve stem and to form a seal between the gasket and the bonnet member.

WO 2006/052237 A1

### 

— with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.